

WHAT IS CLAIMED IS:

1. A method for optimizing a process for creating color separation for a document with a graphical container using a cache, the method comprising:  
5 creating a high-level representation of the container as a separated element in the cache; and  
using the separated element in the cache when the graphical container is invoked a second time.

2. The method of claim 1, further comprising creating a separation context to  
10 capture one or more separated containers.

3. The method of claim 1, further comprising decomposing each container into one or more elements.

4. The method of claim 3, further comprising performing color separation for  
15 each element.

5. The method of claim 3, further comprising recursively performing color separation for each element.

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6. The method of claim 1, further comprising reconstructing each container as an object.

7. The method of claim 6, further comprising associating the reconstructed container with a subsequent reference to an element.

5 8. The method of claim 6, further comprising referencing the reconstructed container from the document.

9. The method of claim 6, further comprising placing the object in the cache for each representation of a color plate.

10 10. The method of claim 1, further comprising applying a cached representation of a component rather than reprocessing the component if the cached representation exists.

11. A method for optimizing a process for separating a document into one or more color layers, comprising:

15 for each color layer, determining whether a high-level representation of a graphical container exists in a cache;

if a cache miss occurs, creating the representation of the graphical container and adding the representation of the graphical container to the cache; and

20 if a cache hit occurs, referencing the representation of the graphical container in the cache.

12. The method of claim 11, further comprising creating a separation context to capture one or more separated containers.

13. The method of claim 11, further comprising decomposing each container into 5 one or more elements.

14. The method of claim 13, further comprising performing color separation for each element.

10 15. The method of claim 13, further comprising recursively performing color separation for each element.

16. The method of claim 11, further comprising reconstructing each container as an object.

15 17. The method of claim 16, further comprising associating the reconstructed container with a subsequent reference to an element.

18. The method of claim 16, further comprising referencing the reconstructed 20 container from the document.

19. The method of claim 16, further comprising placing the object in the cache for

each representation of a color plate.

20. The method of claim 11, further comprising applying a cached representation of a component rather than reprocessing the component if the cached representation exists.

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21. Computer readable media for optimizing a process for creating color separation for a document with a graphical container using a cache, the computer readable media containing instructions to:

create a high-level representation of the container as a separated element in the cache;  
10 and,

use the separated element in the cache when the graphical container is invoked a second time.

22. A system for optimizing a process for creating color separation for a  
15 document with a graphical container using a cache, comprising:

means for creating a high-level representation of the container as a separated element in the cache; and

means for using the separated element in the cache when the graphical container is invoked a second time.

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23. Computer readable media for optimizing a process for separating a document into one or more color layers, the computer readable media comprising instructions to:

determine for each color layer whether a high-level representation of a graphical container exists in a cache;

if a cache miss occurs, create the representation of the graphical container and adding the representation of the graphical container to the cache; and

- 5 if a cache hit occurs, reference the representation of the graphical container in the cache.

24. A system for optimizing a process for separating a document into one or more color layers, comprising:

- 10 means for determining whether a high-level representation of a graphical container exists in a cache for each color layer;

means for creating the representation of the graphical container and adding the representation of the graphical container to the cache if a cache miss occurs; and

- 15 means for referencing the representation of the graphical container in the cache if a cache hit occurs.

25. A method for generating a pre-separated file for color separation operations, comprising:

creating a high-level representation of a graphical container as a separated element

- 20 the first time the graphical container is used;

storing the high level representation of the graphical container in memory; and

referring to the separated element in memory when the graphical container is

invoked a second time.

26. A pre-separated file, comprising:

a region for storing a high-level representation of a graphical container as a separated element the first time the graphical container is invoked; and  
5 a reference to the region each time the graphical container is subsequently invoked.

27. The file of claim 26, wherein the file conforms to a Portable Document Format.

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28. The file of claim 26, wherein the file can be viewed using a reader.

29. The file of claim 28, wherein the reader displays overprint data.

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30. The file of claim 26, wherein the file is viewed using a Portable Document Format reader.

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31. A method for optimizing a process for creating color separation for a document with a pattern container using a cache, the method comprising:  
creating a high-level representation of the pattern container as a separated element in  
the cache; and  
using the separated element in the cache when the pattern container is invoked a

second time.

32. A method for optimizing a process for creating color separation for a document with a form XObject using a cache, the method comprising:

5 creating a high-level representation of the form XObject as a separated element in the cache; and

using the separated element in the cache when the form XObject is invoked a second time.